

Patent Claims

1. An optical communication network (20) in which optical signals are exchanged via a first data link between a first network node device (1) and a second network node device (6) with interposition of a number of further interconnected network node devices (2, 3, 4, 5), characterized in that, after a disturbance on the first data link, a third network node device (3) sends a signaling signal (S32) to a fourth network node device (2) connected to the third network node device (3) for setting up a second data link which acts at least partially as a standby for the first data link, which signaling signal (S32) contains a parameter (NRR, n) determined by the third network node device (3) on the basis of which it is determined whether the fourth network node device (2) is responsible for setting up the second data link or not.
2. The optical communication network (8) as claimed in claim 1, in which the parameter (NRR) contains information with respect to the distance between the third network node device (3) and the second network node device (6).
3. The optical communication network (8) as claimed in one of the preceding claims, in which the distance between the fourth network node device (3) and the second network node device (6) is additionally taken into consideration in the determination as to whether the fourth network node device (2) is responsible for setting up the second data link or not.
4. The optical communication network (8) as claimed in one of the preceding claims, in which the

distance between the fourth and the third network node device (2, 3) is additionally taken into consideration in the determination as to whether the fourth network node device (2) is responsible for setting up the second data link or not.

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5. The optical communication network (8) as claimed in claim 4, in which the fourth network node device (2) is responsible for setting up the second data link if the distance between the fourth and the second network node device (2, 6) is not less than the distance, adapted by the distance between the fourth and third network node device (2, 3), between the third and second network node device (3, 6).

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6. The optical communication network (8) as claimed in one of the preceding claims, in which one of the network node devices (2, 3, 4) which is located on the path, used by the first data link, from the fault location in the direction of the network node device (1) which has set up the first data link, is responsible for setting up the second data link.

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7. The optical communication network (8) as claimed in one of claims 1 to 5, in which one of the network node devices (5) which is located on the path, used by the first data link, from the fault location in the direction of the destination network node device (6) of the first data link, is responsible for setting up the second data link.

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8. The optical communication network (8) as claimed in one of the preceding claims, in which the parameter (NRR) determined by the third network node device (3) or a further parameter (n) transmitted to the fourth network node device (2)

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contains information on whether the third network node device (3) has received a further signaling signal (S31), corresponding to the signaling signal (S32), from a further network node device (4) connected to the third network node device (3).

9. The optical communication network (8) as claimed in claim 8, in which the parameter (NRR) or the further parameter (n) contains information on which number of further network node devices (4) have sent to corresponding network node devices (3) a further signaling signal (S31) corresponding to the signaling signal (S32), the further network node devices (4) being connected directly or indirectly to the third network node device (3).

10. The optical communication network as claimed in claim 9, in which the fourth network node device (2) is responsible for setting up the second data link if the number corresponds to a predetermined number.

11. An optical communication network (20) in which optical signals are exchanged via a first data link between a first network node device (1) and a second network node device (6) with interposition of a number of further interconnected network node devices (2, 3, 4, 5), characterized in that, after a disturbance on the first data link, a third network node device (3) sends a signaling signal (S32) to a fourth network node device (2) connected to the third network node device (3) for setting up a second data link which acts at least partially as a standby for the first data link, and the fourth network node device (2) determines on the basis of a Bernoulli experiment whether it is responsible for setting up the second data link

or not.

12. The optical communication network (20) as claimed
in claim 11, in which the number of links
5 connected to the fourth network node device (2) is
taken into consideration in the Bernoulli
experiment.
13. The optical communication network (20) as claimed
10 in claim 11 or 12, in which the distance between
the fourth network node device (2) and a further
network node device, particularly the first and/or
second network node device (6), is taken into
consideration in the Bernoulli experiment.
14. The optical communication network (20) as claimed
15 in one of the preceding claims, in which the
second data link extends wholly or partially via a
different undisturbed path from the first data
20 link.
15. A network node device (2) which is designed and
established in such a manner that it can be used
as fourth network node device (2) in an optical
25 communication network (20) as claimed in one of
claims 1 to 14.
16. The network node device (3) which is designed and
established in such a manner that it can be used
30 as third network node device (3) in an optical
communication network (20) as claimed in one of
claims 1 to 14.
17. An optical information transmission method in
35 which optical signals are exchanged via a first
data link between a first network node device (1)
and a second network node device (6) with
interposition of a number of further

interconnected network node devices (2, 3, 4, 5),
characterized in that, after a disturbance on the
first data link, a third network node device (3)
sends a signaling signal (S32) to a fourth network
5 node device (2) connected to the third network
node device (3) for setting up a second data link
which acts at least partially as a standby for the
first data link, which signaling signal (S32)
contains a parameter (NRR, n) determined by the
10 third network node device (3) on the basis of
which it is determined whether the fourth network
node device (2) is responsible for setting up the
second data link or not.

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